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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/858,109	05/15/2001	Ronald S. Cok	82687THC	1762

7590 10/20/2004

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EXAMINER

BELL, PAUL A

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/858,109

Applicant(s)

COK, RONALD S. 

Examiner

PAUL A BELL

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-9,11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,11 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. In view of the Appeal Brief filed on 7/02/2004, PROSECUTION IS HEREBY REOPENED. as set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

### ***Comment***

2. If you pick choice (2) above please note Claims 1-12 contain substantial errors as presented in the last Appendix to the brief. The appendix should only have claims that are currently in case (claims 2 and 10 were canceled) . The claims presented appear to be the original claims. The claims in applicants appendix must reflect all entered amendments such as 7/11/2003 and 10/28/2003.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having

ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al. (6,414,661) in view of Hunter (6,441,560) and Huang et al. (5,751,263)

With regard to claim 1 Shen et al. teaches an active matrix OLED flat-panel color display (column 1, lines 10-49), comprising: a) a plurality of light emitting elements for emitting light of different colors and associated control circuits (column 1, lines 29-39, figure 2, items 10 and 14); b) a power supply connected to the control circuits (figure 2 and 3); c) a sensor for sensing the light to produce a feedback signal (figure 4a and column 9, lines 10-47); and d) a display controller responsive to the respective feedback signal to compensate for changes in the light output from the light emitting elements (figure 4a, item 30).

Shen et al. does not teach, "a separate sensor for sensing each color of light emitted by the display to produce a feedback signal for each color". Shen instead illustrates all the light emitting elements having only one common sensor which is moved to look at each light emitting element.

Hunter teaches the concept of having "a separate sensor for each light emitting element" also used for control (See Hunter figure 3, items 45 and 20, column 5, lines 52-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Shen et al. apparatus to have a separate sensor for each light emitting element mounted on a common substrate as taught by Hunter

because one would be motivated to replace a moving single sensor with stationary multiple sensors to speed up and facilitate real-time calibration and control.

In addition Shen does not clearly illustrate the concept of a power supply being "programmable " and further did not clearly illustrate the concept of, "programming the programmable power supply to compensate for changes in the light output from the light emitting elements". Shen instead uses multiple parts to perform the same function, for example Shen does demonstrate a feedback to control circuits that calculate correction coefficients for individual pixel drive currents and uses such individual correction coefficients to control the output of individual pixels. And further note these control circuits get the power that they send to the pixels from the power supply. Now the question is would it have been obvious for one of ordinary skill to put both the separate power supply and the separate control circuits into a single black box and have the sensor feedback as an input and have the pixel line outputs come out of the black box and still further would it have been obvious to put the label on the black box of "programmable power supply". Would One of ordinary skill be motivated to simply integrate multiple parts into to one module unit to make a complex structure more simple and more easy to service and assemble?

In any case Huang et al. teaches in figure 7, item 54 PROGRAMMABLE POWER SOURCE and item 64 PROGRAMMABLE CURRENT SINK being used to facilitate power to the matrix of LEDs.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the Shen et al. apparatus as already modified by

Hunter and Yano et al. to use a programmable power supply as taught by Huang et al. because he teaches motivation in column 8, lines 45-51, "With a programmable power supply and a programmable current sink, the number of devices used for a decoding switch can be minimized. Power dissipation is limited by driver leakage current instead of MESFET leakage current. As a result, the power dissipation is much lower than that obtained from an array without programmable power supply or programmable current sink". In addition examiner gives another well known motivational reason programmable power supplies, it solves the problem of instability of radiation sources such as LED.

Note Huang et al. in addition to primary reference Shen et al. also teaches the concept of having, "plurality of light emitting elements for emitting light of different colors" (See Huang et al. column 2, lines 20-30) is well known in the prior art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further use the Shen et al. apparatus as modified by Hunter and Huang et al. to use the "plurality of light emitting elements for emitting light of different colors", as taught by Huang et al. because one would be motivated to produce a multi color display that are more commercially marketable than single color displays and give a closer to true perspective of reality as originally seen.

With regard to claims 4 or 5 Shen et al. as modified by Hunter and Huang et al. does not teach the display claimed in claim 1, wherein the programmable power supply is on a common substrate with the display as in 4 or wherein the programmable power supply is on a separate substrate from the display as in 5.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to locate the power supply on either the display substrate or a separate substrate because the mere "shift in location of a part", such as the location of the power supply can not be used to distinguish over the prior art without a showing of "unexpected results". (In re Japikse 86 USPQ 70 ccpa 1950). A motivation for placing a power supply on a separate substrate would be to reduce weight and size of a separate display. A motivation for putting a power supply on the display substrate would be to reduce power loss due to not having long wires delivering the power.

With regard to claims 6 and 7, Shen et al. as modified by Hunter and Huang et al. does not teach the display claimed in claim 1, wherein the programmable power supply is in a common package with the display or wherein the programmable power supply is in a separate package from the display.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to locate the power supply in either a common package with the display or in a separate package from the display because the mere "shift in location of a part", such as the location of the power supply can not be used to distinguish over the prior art without a showing of "unexpected results" (In re Japikse 86 USPQ 70 ccpa 1950). A motivation for putting a power supply in a separate package would be to reduce weight and size of the display on desk. A motivation for placing a power supply in a common package with display would be to reduce power loss due to not having long wires delivering the power.

With regard to claim 8 Shen et al. as modified by Hunter and Huang et al. teaches the display claimed in claim 1, wherein the programmable power supply is addressable as a storage element (It is obvious that which can be programmed has storage or it could not be programmed).

5. Claims 3, 9, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shen et al. / Hunter / Huang et al. as applied to claims 1 and 5-8 above, and further in view of Stanton et al. (6,631,995) .

With regard to claim 3 the combination of Shen et al. / Hunter / Huang et al. does not directly illustrate the display claimed in 1, further comprising separate programmable power supplies for each color in the flat-panel display.

However Stanton et al. teaches the above feature (SEE Stanton figure 4, items 56, 58, 59, 50, 52, 54 and 48 and SEE column 4, lines 8-12 and 35-60).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Shen et al. / Hunter / Huang et al. to have a separate programmable power supplies for each color in the flat-panel display as taught by Stanton et al. because the mere duplication of a part to achieve a multiplicative effect is considered obvious. And further since each led has unique characteristics it is essential for optimum results to use the separate line that goes to each led to provide a specific power level from a separate programmable power supply.



With regard to claim 9 since the combination of Shen et al. / Hunter / Huang et al. / Stanton et al. was found to suggest the apparatus claim 3 above then the corresponding method claim 9 would be obvious.

With regard to claim 11 the combination of Shen et al. / Hunter / Huang et al. / Stanton et al. teaches the method claimed in claim 9, wherein the display includes a controller having a lookup table for receiving device independent code values and producing device dependent code values and further comprising the step of calibrating the controller by changing the lookup table ( See Shen et al. figure 7 and 8 and it is obvious that when every pixel is calibrated as taught by Shen et al. that the calibrated values are stored in a table as broadly claimed).

With regard to claim 12 the combination of Shen et al. / Hunter / Huang et al. / Stanton et al. was shown in 11 above to cover most of these limitations in addition he is now claiming, "changing the lookup table to correct for the color balance of the display" (It is obvious that when each led is calibrated that the color balance would have been corrected).

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1 and 9 have been considered but are moot in view of the new ground(s) of rejection.

### **Conclusion**

7. The prior art made of record and not relied upon yet is considered very pertinent to applicant's disclosure.

Orlicki et al. ( US 5,818,499) PUB. Oct 6, 1998 Assignee: Eastman Kodak Company, teaches in figure 2 a separate item 18 labeled "POWER SUPPLY" and

another separate item 16 labeled "LOGIC & CONTROL UNIT" being used to facilitate power to the LEDs. With further regard look at the statement made in column 1, lines 51-57, "A programmable power supply 18 is provided and controlled by the LCU to output the various control voltages, two of which V.sub.REF and +V".

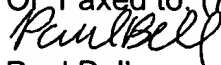
GRIMBERGEN (US 2004/0035529) PUB Feb. 26, 2004 Assignee : Applied Materials, Inc. clearly teaches the concept of power supply being "programmable " and "programming the programmable power supply to compensate for changes in the light output from the light emitting elements" is well known in the analysis art of LED being monitored by a sensor (SEE Grimbergen figure 6, item 81, section [0024] last 7 lines, and all of section [0047]). He teaches that he solves the problem of instability of radiation sources such as LED.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Bell whose telephone number is (703) 306-3019. If attempts to reach the examiner by telephone are unsuccessful the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377 can help with any inquiry of a general nature or relating to the status of this application.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Or, Faxed to: (703) 872-9306

  
Paul Bell  
Art unit 2675  
October 7, 2004

  
CHANH NGUYEN  
PRIMARY EXAMINER